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ABSTRACT

Intended as a companion piece to volume 5 in the Method Series, Health Facilities Planning (CE 024 233), this sixth of six volumes in the International Health Planning Reference Series is a combined literature review and annotated bibliography dealing with health facilities planning for developing countries. The review identifies literature relevant to existing methodology for planning and assessing health facilities in the developing countries of Africa, Asia, and Latin America, particularly in rural areas. Specific topics include (1) organization and philosophy of health care systems, (2) utilization, (3) architecture, and (4) climatic conditions. The 131 refeences included in the review are contained in the bibliography which divides the references into these areas: administration, architecture and techniques, assessment and evaluation, case studies, manpower, mobile units, planning, primary care, secondary care, utilization, and other sources. The format for each entry is author, title, source or publisher, date of publication, and annotation. (YLB)

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International Health
Planning Reference Series

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Health Facilities Planning References

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Selected Bibliographies and State-of-the-Art Review for Health Facilities Planning

CE 024 228

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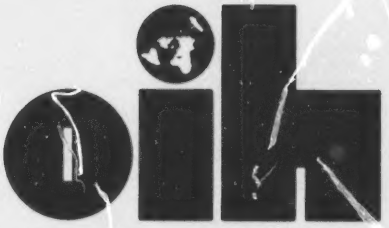
Selected Bibliographies and State-of-the-Art Review for Health Facilities Planning



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PREFACE TO THE SERIES

The International Health Planning Reference Series has been developed by the Office of International Health, Public Health Service, on request of the Agency for International Development.

The series consists of six basic volumes which cover a variety of health issues considered vital for effective development planning. These volumes contain reports of the state of the art surveys and bibliographies in selected subject areas. These are intended for the serious researcher and planning professionals.

These six volumes are supplemented by ten additional works in the International Health Planning Methods Series, which is intended to assist health sector advisors, administrators and planners in health related activities. Each manual in this series attempts to be both a practical tool and a source book in a specialized area of concern.

The volumes in the International Health Planning Reference Series contain the efforts of experienced professionals who have identified limited but pertinent reference materials for planning in a particular field. These efforts, however, were short term (2 man months) and were mainly prepatory to the writing of the manuals. Through this effort they hope to provide the AID field officers and the host country counterparts with useful references for systematic health planning in developing countries.

PREFACE TO VOLUME SIX

This combined literature review and annotated bibliography deals with the subject of health facilities planning for developing countries. It is the sixth volume in the series of works known collectively as the International Health Planning Reference Series.

The series was produced by the Office of International Health as requested by the Agency for International Development to provide AID advisors and national health officials in developing countries with critically needed references for incorporating health planning into national plans for economic development.

This volume is intended primarily as a companion piece to volume five in the Methods series, entitled Health Facilities Planning. References included here are intended to identify works to support and enlarge upon material contained in the basic manual.

It should be stressed from the outset that the bibliography compiled here makes no claim to be an exhaustive or comprehensive listing of available resources. It is a selective bibliography only. Materials were included only if they dealt directly with the problems of health facilities planning in developing countries.

Texts written in languages other than English were excluded in most cases from consideration here. References that were of solely historical interest were not included, nor were several otherwise excellent texts that related only in general terms to the core subject of health facilities planning in developing countries.

Preparation of this volume was undertaken for the Office of International Health by the E.H. White & Co., Management Consultants, of San Francisco, California. This volume was prepared under the supervision of Melvin L. Whitfield, Ph.D, M.P.H., and Wendy Graff.

The authors of this literature review and bibliography have frequently expressed personal points of view with reference to specific works. While their viewpoints generally coincide with organizations or agencies with whom they are associated, the material in this text should not be construed to reflect the official policy of any agency or organization.

Paul Ahmed

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Office of International Health

ACKNOWLEDGMENTS

Each volume in the International Health Planning Reference Series has been the work of many people. In addition to the primary authors, each volume has involved government reviewers and reviewers from positions outside government, editors, revisors, and numerous technical and support personnel. Substantial contributions have been made by manual advisors, who provided the authors with the benefit of their knowledge and experience in the fields under study.

With reference to Volume 6: An Annotated Bibliography for Health Facilities Planning, special thanks are in order for contributions made by Melvin L. Whitfield, the original author, and by Sheldon Miller, who revised much of the text.

Gratitude is also acknowledged for advice from Dr. Jose Gonzalez, Rex W. Allen (architect), and Dr. Paul Zukin.

While the present work could not have been completed without the assistance of these individuals, responsibility for the content of this manual rests with the authors.

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PLANNING AND ASSESSMENT OF HEALTH FACILITIES
IN DEVELOPING COUNTRIES

REVIEW OF THE LITERATURE

This paper will highlight significant aspects of existing methodology for planning and assessing health facilities in developing countries as defined through the review of the literature. The geographical limitation of this literature search is restricted to developing countries of Africa, Asia, and Latin America. An attempt was made to locate and interpret the literature concerning existing and proposed health facilities of developing countries. Since the entire field of health facilities and their appropriate place in health services distribution systems is developing rapidly with ever-changing technology, it was felt that information issued more than 10 years ago (before 1969) would be of limited value and therefore has not been included in this review.

Health facilities planning and assessment are affected by many variables. The focus of this search, therefore, is to identify in this paper those health facility variables which seriously impinge on the development of the facility, as well as those which have the greatest impact on the potential users of the service.

The preparation of this brief paper included the literature search, the review of the literature, together with the annotation and preparation of the bibliography.

Several approaches were used to perform this literature search. MEDLARS II of the National Library of Medicine's National Interactive Retrieval Service was used with various keywords to generate several publications. Several other library searches at the World Bank, the United Nations, the Agency for International Development, Library of Congress, the Pan-American Health Organization and the Berkeley School of Public Health yielded some additional sources.

Personal contacts were made with several authoritative resource persons. Thanks to Dr. Jose Gonzalez, Secretary, Pan-American Office of the International Hospital Federation, valuable information was obtained. Additionally, discussions with Dr. Malcolm Merrill, Mr. Rex W. Allen, Dr. Paul Zukin, Mr. Sheldon Miller, Dr. Juno-Ann Clarke, and Dr. Oscar Gish brought to light several more recent sources.

Many professional organizations made certain publications available. They were the International Development Research Center of Ottawa, Canada; American Hospital Association, the Office of International Health, DHEW (Department of Health, Education and Welfare), APHA (American Public Health Association).

In all, the search yielded approximately three hundred related documents. Only a few of the sources listed in the bibliography appear to be really useful to the development of this manual. However, each source has some bits of information which could be useful. Much more time than was available, should be devoted in order to conduct a more extensive search of the worldwide body of literature on this subject.

While reviewing and annotating the sources, the overall reaction was that most of the experts dealing with methodologies for the planning and assessment

of health facilities were in general agreement on the problems. Even though their emphasis depended on their own professional orientation, each seemed to express concern on several key issues:

1. In many countries health facilities and care have developed more or less haphazardly, but more and more countries are considering the development and implementation of a national health policy which places emphasis on careful planning for the equitable and realistic distribution of health services.
2. The literature reveals a concern that the development of health facilities should be based on the assessment of the needs of the potential users of the services, implicit in comprehensive health planning.
3. Planners are encouraged to place emphasis on rural (rather than urban) facilities in order to reach greater portions of the populations totally without health services at present.
4. The architecture of the new health facilities will reflect the concern for social/cultural factors of the area as essential elements in the functional planning of structures.
5. Geographical and climatic factors should also have a great impact on the architectural design and placement of the facility, and eventually its utilization.
6. Financial, manpower and material resources are the foremost factors to be considered in determining the kinds of facilities which can effectively be established in any country.
7. The literature reflects intra-country shortages of training facilities for both paramedical and medical staff.

Organization and Philosophy of Health Care Distribution Systems

The primary focus of this paper covers the planning and assessment of health care facilities in developing countries of Africa, Asia, and Latin America. Particular attention is addressed to the often neglected rural areas.

Health facilities, for the purpose of this report, are physical plants (structures or vehicles) where comprehensive rehabilitation services, including preventive, curative, and/or education are provided to the people in need. These facilities can be defined in other ways: they can be defined as to whether they are mobile or stationary; according to location, rural or urban; by funding organization, whether owned: (1) privately, by physicians or corporations, (2) publicly, government or voluntary non-profit organizations. Physical plant facilities may also be defined according to their place in the hierarchy or gradations of health services as described above.

Most of the literature refers to a hierarchy of health services which grows naturally out of the network of facilities in a particular region. These are given various labels by the authors surveyed, but basically conform to definitions of a primary, secondary, or tertiary facility. These facilities are defined according to the functions and services performed. Bridgman and other authorities define the tertiary centers as "those generally located in the main town, usually working in collaboration with a medical school; it is fully equipped with highly specialized departments capable of handling all the patients of the entire region needing such services." The secondary centers are smaller hospitals able to care for the majority of routing patients except those needing specialized services. These general hospitals, while generally located in urban settings, sometime serve peripheral rural areas. The primary centers provide the day-to-day ambulatory (simplified or primary care) health services to small groups of rural patients, usually at the village level.

Historically, many of the health facilities throughout the world have been planned and built with little regard to the many variables which impinge on comprehensive health planning and assessment. Additionally, countries in the

three regions dealt with in this paper, have only recently started to develop a health policy; furthermore, a significant number of developing countries are beginning at this time to implement a national health policy, but experienced technical manpower for this purpose if sorely lacking.

In Regional Planning of Health Care Facilities and Regional Collaboration Between Health Care Institutions, Bridgman cites as the major obstacle to the national planning of health the inadequate coordination of the system of health care with other social institutions such as: (1) the national education system, (2) social security schemes, (3) occupational medicine, (4) preventive medicine, and (5) welfare activities.

Inadequate national health planning has resulted in the construction of too many secondary and tertiary facilities. These facilities generally provide limited care to a relatively small segment of the population. Present assessment of health facilities in many developing countries reveals that a majority of the facilities are located in the cities either near a medical school or an international business establishment or a milirary installation. Although the majority of the health facilities in developing countries are located in the cities, conversely the largest percentage of the population resides in the rural areas; in a relatively few isolated cases secondary or tertiary facilities are located in the countryside. Aggravating this existing situation is the fact that these secondary and tertiary facilities are not being adequately utilized for the extensive training of the appropriate manpower required to improve and extend health services effectively.

From country to country in the developing world this situation prevails. Expensive secondary and tertiary health facilities requiring a large percentage of the limited available health personnel consume a large proportion of that part of the Gross National Product (GNP) allocated to the health sector. This is despite the fact that the health sector itself is a low priority item in the national budget.

Burfield expounds on the low national priority of health in his article, Future Development of Health Planning Policy, where he states: "Government health expenditures as a proportion of GNP are generally less than one or two percent for countries with per capita income below $250; for relatively richer countries the proportion tends to rise somewhat. For 17 countries out of 65 for which data are available, government health outlays per capita are less than $1, and the median figure for countries below per capita income of $100, is only $0.87. The median rises to $1.42 for countries with per capita income between $101-200 and to $2.85 for countries with per capita incomes between $201-300. The bulk of government health expenditure is allocated to curative services. A large part is spent on hospitals, particularly on inpatient services manned by expensively trained doctors and nurses. These modern medical facilities are concentrated in urban centers."

Assessment and Planning

Up until 10 years ago very little quantifiable research was done on planning and assessment of health facilities in developing countries. Even today a large portion of the investigative efforts focus on hospital settings in urban areas as opposed to health facilities in rural districts.

There are several major reasons why planners and researchers find it difficult to carry out their functions. Some of the factors involved include absence of or insufficiency of a medical records system, absence of vital statistics, limited trained health and medical personnel, absence of an effective national health plan, the low priority of health in the agenda of the countries concerned, inadequate public health records, and limited financial and

technological resources. Before any significant methodology can be developed, it is necessary that these factors, along with the social-cultural aspects, be taken into consideration. One of the limitations of many planning methodologies is due to the fact that one or more of the above factors has not been addressed.

Considered to be of interest to the reader is Blandford's discussion in the article entitled Organization of the Pre-Design Phase, Operational Policies-Methodical Programming. This article presents approaches to problem solving and management rather than solutions. The author suggests that if sufficient attention is paid to the basic objectives of the scheme, such as the way in which decisions will be made, the time available, approvals to be obtained, and financing required; later problems would be almost eliminated. He suggests that countries developing one or more new health service facilities (preferably as part of a network) give a high priority to training a core of staff in a central bureau who would act on behalf of the health authority. He lists personnel required for this team and what their functions would be. Later he analyzes the decision making process and defines the types of decisions which have to be made.

Priorities in Planning and Organization, an article by R.J. Sahl, poses the question of how an up-to-date high quality health care facility can be achieved where supplies of staff, materials and finances are limited. He points out that careful, extensive, comprehensive planning is essential to get the best possible health care for the patient, together with training for staff; and expedites providing economical facilities in which these functions will be effectively performed. He feels that comprehensive facilities and services could be available if given sufficient time, but that priorities must be established early in the planning process in order to have the best units available as soon as feasible. Priorities need to be set in the kinds of service to be offered, types of physicians required, comprehensiveness of treatment (which implies referral), type of building equipment to use, etc.

Approaches to health policy which would maximize health benefits for the whole population is the overriding theme of the article, Future Development of Health Planning Policy, by John Burfield.

The Conference of Missionary Societies in Great Britain and Ireland, in their book, A Model Health Center, provide a prototype clinic consisting of the architectural layout, significant patient floorissues, location of pharmacy or dispensary, waiting area, outpatient, antenatal clinics and family planning, medical supplies, communications system and the duties of physicians in relation to the health center. Five clinic models are demonstrated, all of which are based on one standard expandable model.

The World Health Organization (WHO) is attempting to consolidate several of the established planning and assessment methodologies. In the introduction to Vol. I on Approaches to Planning and Design of the Health Care Facilities in Developing Areas, Kleczkowski and Pibouleau state that the WHO concept of a total health care system being implemented on a gradual level will depend on mutual understanding, open communications and trust between the providers and the potential users of the services. They state further that: "the type of activity for the improvement of health care delivery with which WHO is concerned can be grouped into the four following categories:

(1) actions aimed at increased population coverage;
(2) actions aimed at improved quality and utilization of services;
(3) actions aimed at increased efficiency; and
(4) actions aimed at better planning and allocation of resources."

The main objective of the WHO study is to assist governments and national or regional agencies in the following efforts:

(1) defining a coordinated medical care facility system within the integrated community health services;

(2) programming long-term action to adapt, modernize and coordinate existing medical care facilities, and to rationalize planning and construction of new institutions;
(3) planning individual care facilities in developing countries.

Further, the authors state that implementation of an appropriate technology to the development of medical care facilities requires consideration of three factors:
(1) legislative and administrative framework,
(2) planning and programming,
(3) architecture and techniques.

Bridgman presents in his article, The Importance of Legislation and Administration for Medical Care Facilities, With Special Reference to the Developing Countries, a guide to planning and assessment in which he suggests that there are two aspects involved in planning for health services of medical care institutions and establishments. The first phase is systematic planning which involves the consolidation of authority responsible for making major decisions pertaining to such items as (1) determining the mandatory staff, (2) developing financing methods, (3) determining planning, and evaluation of various activities of the preventive section and outpatient care, (4) building costs, and (5) making projections for the number of beds for inpatient care. Additionally, Bridgman states the "physical planning should grow out of functional programming studies which are written documents which may include sketches and graphs showing the interrelationships of the different parts of the hospital and/or the health center. The government might decide on a standard plan which could be built as a uniform series. The importance of standard plans, or prototypes, for the components of large hospitals and for small hospitals has increased since industry began manufacturing equipment and furniture to standardized dimensions."

In addition to primary, secondary and tertiary facilities there are several other health care delivery units which must be considered in the planning stages. Particularly in the rural areas of developing countries where resources of all kinds are scarce, these units take on a greater importance. For example, for certain remote areas and communities, a flying doctor service has been instituted to bring curative and preventive medicine to the rural population; a variation of this is to have an adequate communication system and regular scheduled periodic visits to outlying health posts by jeep or vessels.

Several areas make use of mobile units which serve many purposes. They carry the needed health care to the community, and used for essential field training for various levels of health personnel as well as administering care. Generally, these mobile units are backed up by medical centers. They are equipped with a nurse, a health educator and a driver.

Boderheimer points out several good reasons for the use of mobile units:
1. the geographic-demographic layout of the country,
2. the type of health services desired (periodic as opposed to comprehensive),
3. the costs, usually one-third that of stationary units.

Through the use of mobile units containing a child welfare team, for example, malnutrition in Sierra Leone was combatted. Nevertheless, an aggressive village health post operated by a trained auxiliary who has communication with and visits from a secondary care facility is the "front line" in the delivery of primary care.

In many areas of the developing world there is a need for regionalization. Bridgman in his article, Regional Planning of Health Care Facilities and Regional Collaboration Between Health Care Institutions, defines regionalization as "a concept aimed at adopting an administrative structure to govern a network of interrelated institutions to local geography and population distribution on the one hand and the special activities to the prevailing problems in the region on the other."

Dr. Merrill goes on to state, in his article, Planning and Organization of Health Care Service, that planning should include consideration of many factors such as: determining disease patterns in the project area, current health services structure, assessment of the resources available, cultural factors, etc. The author presents the concepts of a total health service system in which the health facilities evolve in a pyramid-like structure with rural community sub-centers, of simple health posts, as the foundation. These sub-centers (posts) should be local, low-cost facilities which give minimal but basic health services to the majority of the people.

Miskiewicz, in her article, "The Role of Area-Wide Planning and Functional Programming in the Planning Process for Medical Care", proposes area-wide planning in order to maximize all existing resources in an attempt to provide health facilities for the greatest number of potential users of the services. Her plan requires knowledge of the geographic area to determine the facilities needed. This should be coordinated with the local, city and national policy. A determination of the key characteristics of the area should include information on the geographical situation, settlement structure, and environmental conditions.

In terms of evaluation of the planning methodologies, Dr. Paul Zukin states, "By employing a methodological approach similar to that used in the personal health examintion, an economic development project may be analyzed and evaluated in terms of health considerations." in his article, Health Planning for Economic Development Projects. A technique for carrying out such an analysis, leading to a detailed statement of health-related actions (and their costs) necessary to cope with health problems pertinent to an economic development project, is described.

Several evaluative models are listed in Roemer's publication Evaluation of Community Health Centers, and should be reviewed in the context of an organized health system in a developing country.

Utilization

As stated earlier, some health facilities have been constructed to meet the needs of the health care providers rather than to meet the needs of the potential users of the services. As Burfield says in his article Future Development of Health Planning Policy, "There may be wide cultural gaps between a modern health facility and the tradition bound people it is designed to serve. People may, for example, prefer herbalists, spirit doctors, pharmacists, injectionists, traditional midwives, friends and relatives who offer psychological support in addition to treatment." Therefore, it appears that input from the local residents is essential in all phases of the development and implementation of the health facility.

Consideration of the needs of the local residents and their input, or the lack of consideration of their needs and their participation in the planning, construction, development, and operation of the facility may be shown in the utilization of the facility. Miskiewicz gives a list of 12 factors which could affect the effective utilization of the health care facility:

1. low motivation for medical care
2. lack of confidence in, or conviction about the efficacy of certain medical activities
3. failure of medical care to meet consumers' expectations
4. insufficient health education
5. opposed religious convictions
6. financial considerations--free medical care equals increased use
7. health or administrative policies which encourage the use of the facility for preventive purposes such as an immunization program

8. accessibility of services--population should know how health care is organized. The need to know how many facilities there are, where located, points of access and the nature of the routes.
9. the behavior and attitude of the medical and auxiliary personnel, which affects patients' utilization, is affected by working conditions, organization, inadequate staff and equipment, professional dissatisfaction, lack of motivation, and absence of feedback on the success of their medical care.
10. public opinion--reaction to changes, etc.
11. sociodemographic factors--size of population, migration, future changes in settlements, or family structure, sex and age groups, handicapped persons. Health information systems often operate with indefinite data whereas the epidemological information is usually satisfactory.
12. patient attendance--data on patients' contacts with physicians, nurses, social workers, diagnostic units in a given facility and for a certain population will provide a yardstick for defining the expected monthly, daily, hourly workload in similar communities. Also numbers of persons waiting for appointments is an indicator of demand.

To the above list of 12 factors affecting the effective utilization of a health facility should be added the problems brought about by the infrastructure, or lack of it. By this is meant the organization of administration providing logistic and financial support, together with clinical backing related to communication and transportation.

Decisions on the quantities, types and sizes of the facilities to be provided will be based on the estimates of population usage. Bridgman notes that many studies on the utilization of health services suggest that when a health system cannot provide access for a certain basic number of preventive contacts (immunizations, school health exams, etc.) curative contacts (primary care, including minor surgery) together with a sufficient quantity of in- and out-patient admissions, then that system is unable to meet the needs of its population.

Morley suggests services which might be undertaken by hospitals and health workers to improve health care for the community but, more importantly, to increase justifiable/effective utilization.

Geography is another factor which affects utilization. Geographical distance is a serious problem, given the poor transport typical of rural areas. Distance, says Burfield, may also sharply reduce the effectiveness of a health facility, and requires careful consideration in the planning process.

Architecture

A functional program will provide architects with data which will enable facilities to be designed that take into consideration both functional and cultural requirements.

Vetters, in his article Advanced Building Techniques and Their Utilization of Developing Countries, states that in older hospitals the medicotechnical departments occupied less floor space than the wards but they now require two or three times more room than the latter. The annual (recurring) operating cost of a hospital 50 years ago was about one-tenth to one-eighth of the cost of capital investment in construction and equipment; annual operating cost of a hospital currently represents between one-quarter and one-third of these investments and in a large teaching medical center may reach one-half. Maintenance and repairs of technical installations require specialized and expensive personnel. Less and less of the required repairs or even routine maintenance can be made by non-specialized manpower. For these and other reasons the cost of care in hospitals is rising constantly.

The author also advocates the horizontal as opposed to vertical construction. "In industrialized countries mechanical and automatic means of transport for persons and goods are used extensively in hospital buildings. They are quick and facilitate the programming and distribution of supplies, and they permit vertical construction. Specialized technical personnel are needed, and largely available, to install, and maintain these systems. Nevertheless, a trend towards low-rise or even single-story hospitals has recently emerged, mainly for functional and economic, but also psychological reasons."

Conditions are different in the developing countries. Generally plenty of land is available to build horizontally, specialized personnel is scarce and is likely to remain so for years to come. Ordering and delivery of spare parts often take a very long time. Horizontal transport can be effected by non-specialized personnel, which is frequently plentiful and cheap, and no expensive spare parts are necessary. Taking into account the considerable waiting time for arrival of lifts and hoists, which periodically fail and require servicing and repairs, even the claim of greater speed must be seriously questioned. In a single story building or two stories at the most, the nursing units (wards) and diagnostic/therapeutic departments (lab., X-ray, EKG, PT, etc.) will be located on the ground floor, together with the adjacent outpatient department, while certain support services, (surgery) could be located on the upper level, possibly accessible by ramps rather than elevators.

In vertical buildings with mechanical transportation, the inpatient coming from rural surroundings is suddenly placed in a world totally strange to him; he is no longer in contact with his usual environment, with green spaces and trees, and with his family; when his relatives come to visit him they too are awed and frightened.

Burfield contends that governments would be well-advised to restrict the further allocation of budget funds for building new expensive hospitals in urban areas or for expanding existing ones. They can obtain substantial savings by subjecting existing health programs to a thorough cost effectiveness analysis. Too much is spent on hospital in-patient services compared to out-patient ones.

Climatic Conditions

In the review of all sources relating to health facilities planning and assessment in developing countries little is mentioned of climatic conditions. When designing and constructing health facilities the accurate integration of climatic conditions is essential. There are many examples throughout developing countries where important climatic conditions were omitted. The results are appalling, from overheating in the summer months to not enough natural light during the winter months.

Rex W. Allen emphasized in his article Planning with Regard to Time Methods and Means for Adaption to Changing Functions, Requirements and Increasing Standards the need to construct facilities in north-south orientation for the following reasons: (1) to control inside temperatures when air conditioning is not available; (2) to regulate sunrays entering the interior of the facility during the summer and winter months.

J. Shastri in his article on The Influence of Climate on Buildings stressed that temperatures are directly related to solar radiation; clouds limit the amount of solar radiation reaching the surface of the earth; and the microclimate is an important factor in planning.

Some other important climatic factors are worth mentioning.

Maria Sheriff in the article, Calculation, Tendering, Cost Control and Organization of the Building Phase, made a specific recommendation in attempting

to understand the use of standardized solutions through the developing countries. Differences do exist and cannot be overlooked. The same problem in two different areas might require different solutions. Climatic conditions might permit more outdoor space facilities in some countries as opposed to others. Some problems will demand different solutions.

Arieh Sharon, in Planning and Building of System Hospitals in View of Building Techniques and Climatic Factors, stressed the need for understanding climatic factors in the design of health facilities for a more open layout in contrast to the compact hospitals constructed in the past. The article stresses the need to eliminate many of the straight lines which have existed in facilities in the past. One key advantage of the open space is increased air motion and cross-ventilation throughout the facility.

Keith P. Smith, in Practical Experiences in the Design and Construction of Teaching Hospitals in Countries with Limited Resources, clearly provides the need for developing and constructing teaching hospitals in various areas of Africa where resources are limited. Many existing teaching hospitals did not include the key climatic conditions before construction. The results are poor ventilation and a large misuse of valuable space.

J. Armand Burgun, in The Planning and Building of Health Care Facilities - Some Principles, emphasized the point that there are always limited resources available and that those in existence should be utilized wisely. Depending on the climate, plants and gardens can be an integral part of the construction and design of the health facility.

Conclusion

In conclusion, the review of the findings of the experts shows that there is considerable consensus in arriving at their plans, methodologies and assessments for developing countries. There is more commonality found in views expressed than differences. Planning and assessment to a large extent has primarily focused on the hospital in the cities, but it is emphasized again that a majority of the population is rural and so resides in the countryside, frequently with poor access to cities. Long and short-term assessment and planning methodologies have just recently been identified and are in the developmental stage.

The developing countries are confronted with limited trained manpower, physical plant, and financial resources; present unique social-cultural problems; have minimally trained health personnel inadequate in numbers; more secondary and tertiary facilities than primary; as well as other factors as yet to be identified.

ANNOTATED BIBLIOGRAPHY

CONTENTS

Administration ..... Citations 001 to 003

Architecture and Techniques ..... Citations 004 to 018

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Primary Care ..... Citations 082 to 097

Secondary Care ..... Citations 098 to 100

Utilization ..... Citations 101 to 103

Other Sources ..... Citations 104 to 131

ADMINISTRATION

001.

Bodenstein, J.W., Africanization in mission hospitals. Contact (Geneva), 21, June, 1974.

This source speaks to the continued involvement of Medical Missionaries in the development of health in South Africa. He feels that as the country develops, the missionaries change their attitudes and roles from that of setting policy to one of cooperation with the developing community as the latter begins to assume control.

002.

de Glanville, H., ed(s). Administration: health centres/small hospitals. Afya: A Journal for Medical and Health Workers (Nairobi), 7, April, 1973, English.

Generally staff members who run small health units are not trained in administration. This lack of appropriate training affects the morale and the total operation of the unit. Duties of health center administrators that purport to increase staff effectiveness and job satisfaction are presented.

003.

Joubert, C., Ghana: the Valco medical service. In Hughes, J.P., ed., Health Care for Remote Areas: An International Conference, Oakland, Kaiser Foundation, 1972, English.

The VALCO medical service of Tema, Ghana was established by the Kaiser Foundation to minister to the occupational and non-occupational needs of its workers and their dependents. Its program in preventive health care is discussed. This source is worthwhile in assessing what an outside corporate structure has successfully accomplished in establishing selected health facilities and medical services in a developing country.

ARCHITECTURE AND TECHNIQUES

004.

Allen, R.W. Planning and Building with Regard to Time Methods and Means for Adaption to Changing Functions, Requirements and Increasing Standards. World Hospitals - The official journal of The nternational Hospital Federation.

Allen emphasize that the facilities grow out of the system, not vice versa. It is foolish to build buildings unless there is a programme for staffing them. Buildings must be responsive to the needs of the user. And these needs can only be determined if there is an accepted or well-planned programme for health care. (Author)

This is a new and refreshing view coming from an experienced architect. Several research tools are provided for the readers.

005.

Church, D., Architecture of hospitals and health centres. In King, M., ed., Medical Care in Developing Countries, Nairobi, Oxford University Press, 1966, English.

The author feels it is vitally important for an experienced architect to be involved in the initial planning of a hospital building. The architect's involvement would insure that adequate departments have been provided for and that the building is constructed in the least costly but sound way for the area. He gives suggestions on design, methods and materials.

006.

Conference of Missionary Societies in Great Britain and Ireland. A Model Health Centre. A Report of the Working Party appointed in 1972 by the Medical Committee of the Conference of Missionary Societies in Great Britain and Ireland. London, 1975.

This is an excellent source in providing the architectural layout of a prototype clinic showing significant patient flow, location of pharmacy or dispensary, waiting area, outpatient, antenatal clinics and family planning, medical supplies, communications system and the duties of physicians working in the health center. Five clinic prototypes, based on one standard expandable model, are depicted.

007.

Eaves, S.W., Pollock, J.R., Intermediate techniques: designs and techniques from Intermediate Technology Workshops, Zaria. Zaria Nigeria, Intermediate Technology Workshops, Ministry of Trade, Industry and Cooperatives, North Central State Government, English.

This booklet has illustrated instructions for the design and construction of hospital furnishings and equipment which were developed in workshops in Ibadan and Zaria, Nigeria.

008.

Emery, R., Frerichs, R., Severn, B., "Project Manual for Information and Evaluation" - Rural Health Services Project, Montero, Bolivia. August, 1976.

Construction activities in the Project are limited to provisions of office and training space at the district level. The basic costs involved in the construction of facilities are: (1) the actual contracted value for the facilities to be built; and (2) the time spent by any of the various members of the project supervising, advising, etc. in the design or construction of the facilities. (Author)

009.

Fendall, N.R., Health centres: a basis for a rural health service. Journal of Tropical Medicine and Hygiene (London), 66 September 1963. English

Seven architectural plans show various designs of health centers. Examples are taken from Kenya.

010.

Goldfinch, A.G. (Mrs.) Planning and Building of Health Care Facilities in View of Operational Techniques - The Nurses' Point of View. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The writer emphasizes that operational policies should first be "tailor made" to suit the country, its culture, economy, and conditions. She suggests that clearly defined operational techniques be decided before planning, so that the resultant hospital functions to its utmost efficiency (economy). Function dictates plan especially when considering the arrangements of patient units, support services, service facilities, and staffing requirements for any health facility, according to the author.

011.

King, M., Miscellaneous. In King, M., ed., Medical Care in Developing Countries, Nairobi, Oxford University Press, 1966, English.

This chapter deals with the comparative costs of some drugs, the potential uses of plastics within hospitals are outlined, and the feasibility of providing prepacked sterile sets of instruments whenever an autoclave is available..

012.

Liberakis, Argyris. Four Models and their Priorities under Restricted Environmental Resources for Health Care. World Hospitals. Spring/Summer 1975. Vol. XI Edition Nos. 2 & 3.

In this article the author suggests that in planning hospitals, looking at the design from a systematic point of view will help to broaden approached and to encourage innovation. Four Models of Health Care Facilities are described and compared in light of the environment, cost, and the people of the community. The models are: The Geneva Hospital, Community Health Center, Preventive Health Center, and the Mobile Health Unit.

013.

Ozguner, Orhan. The Organization of Design - Phase Alternatives in Designing Methods. World Hospitals. Spring/Summer 1975. Vol. XI Edition Nos. 2 & 3.

The author suggests factors to be considered in planning health facilities in developing countries where resources are limited and the statement of needs

is unreliable and uncertain due to constant changes. The socioeconomic conditions are unstable; they are in the stage of urbanization and industrialization. The quantity as well as the quality of needs are changing, transforming rapidly. In addition to uncertainty, the author states that the design of the facility takes into account certain factors such as flexibility, adaptability and growth. He then gives a protocol showing how the above concepts as researched are to be used in creating a design for a functional health facility.

014.

Radtke, Arnold (Dr.) Planning and Building of Health Institutions - The Viewpoint of the Medical Profession. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

Dr. Radtke asks a key question involved in planning health care facilities. He asks "What are the tasks of the medical profession and of other specialists in the health sector in this planning process and at which point is the leading role to be handed over from the health side to the architects?" He gives examples of well meaning physicians who have planned hospitals from the start to finish often neglecting the needs of the community to be served, and the expertise of the architect.

015.

Shastri, J. Influence of Climate on Building. Vol. I., WHO Offset Publication No. 29, Geneva, 1976.

The author suggests that health care facilities in developing countries with limited resources should be simple and easy to construct. He says that the major problems are climate and comfort. He goes on to describe in detail varying climatic conditions and how each affects considerations on the placement of buildings, walls, and roof construction. He uses diagrams, pictures, and charts to demonstrate how winds, glare, heat, and humidity affect the building in addition to providing suggestions for handling these architectural problems.

016 and 017.

Sheriff, Maria Perez. Calculation, Tendering, Cost Control and Organization of the Building Phase. World Hospitals, Vol. XI, Nos. @ & 3. 1975.

The author, who is an architect, discusses the development of health facilities in three phases: the pre-design phase, the design phase, and the building phase. In the pre-design phase care should be taken to be certain that the building is feasible in terms of needs, cost, available manpower, etc. Considerations at this point of these and many other factors listed by the author insures avoidance of the inadequate, costly building in the end. In phase two, different architectural solutions will be found to suit the needs of the country. Competitive and selective bidding (tendering) are discussed in terms of the advantages and disadvantages. While discussing the bidding process and how it affects costs, the author points out many variables to be considered. Cost control is a big factor in determining the feasibility of a project. Not only basic costs but also on-going operating costs, including building maintenance, all require careful consideration. Pointers are given on some costs which can be controlled.

018.

Vetters, William F. Advanced Building Techniques and Their Utilization in Developing Countries. Vol. I., WHO Offset Publication No. 29, Geneva, 1976.

The author focuses on the difficulty of adapting advance techniques to the needs of developing countries. He discusses the use of prefabrication, different sources of energy, air-conditioning and ventilation, and various building construction methods, in developing as compared to developed countries.

ASSESSMENT AND EVALUATION

019.

Attia, S.E., WHO, Alexandria. Report on a visit to the Syrian Arab Republic, 24 June to 8 July 1969. Alexandria, WHO, September 1969. 23p. WHO/EMRO/69/948. EM/RH/16 Syria General. English.

The basic health services of the Syrian Arab Republic were assessed for the Ministry of Health. It was found that the 140 rural health centers were not coordinated, nor did they adequately meet the needs of the population they were intended to serve. The services were unevenly distributed and understaffed. Subcenters are recommended as a partial solution to the problem.

020.

Bull, G.M., Impressions of a medical tour of eastern and western regions of Nigeria. West African Medical Journal, (Ibadan), 9(4), August 1960, English.

Observations of Nigerian government hospitals, health and maternity centers, dispensaries, mission hospitals, and other health institutions revealed many problems. One problem is providing health services to a large population on a small budget. Demand for ambulatory care has increased so much that methods for screening patients are being established in order to predetermine the kind of care indicated.

021.

Chasse, D., "World Bank Health Sector Assessment Process". Preliminary Draft, December 18, 1975.

The World Bank Annual Report (7:19) gives the present World Bank official position on health. The Bank does not finance conventional health infrastructures as such, it has, however, financed in the past, and will support in the future, significant health activities in the context of lending to other sectors. The Bank decided that (within the context of its present lending program) it will systematically analyze the health consequences of the projects it supports and seek opportunities that may become available so as to improve health conditions in the developing world. (Author)

022.

Rao, P.S., Benjamin, V., Richard, J., Methods of evaluating health centres. British Journal of Preventive and Social Medicine (London), 26, 1972, English.

An attempted evaluative study leading to a more effective planning mechanism for health centers in Tamil Nadu, India. Some of the variables assessed were patient utilization, percentage of population served by health center, percentage of citizens utilizing outpatient services, etc.

023.

Roemer, M.I. Evaluation of Community Health Centers. WHO Publication, Public Health Paper, No. 48, Geneva, 1972.

Health centers of various types have existed for a century or more, their common feature being the provision of health services to ambulatory patients. To date little has been done to clarify the various functions of such centers or to evaluate their effectiveness in comparison with, for example, that of a system based on the free choice of private practitioners. (Author)

Several evaluative models are listed in this collection of papers and should be reviewed in the context of an organized health system in a developing country.

CASE STUDIES

024.

Anderson, A., Clinic for Penas. Journal of Practical Nursing (New York), 16, March 1966, 33-34. English.

In a project in an isolated Bolivian Mountain Village, two licensed practical nurses established a small daily health clinic which treated a steady stream of peasants in that village and surrounding villages. Two obstacles were the people's superstitions and the inadequate water supply.

025.

Arole, R.S., Arole, M., Christian Medical Commission, World Council of Churches, Geneva. Comprehensive rural health project, Jamkhed, India. Geneva, Christian Medical Commission, 1972, 18p. English.

A phased health program is described which was initiated by the Christian Medical Commission so as to be coordinated with government programs to reduce population growth, infant and child mortality, etc. A health center would be established in Jamkhed, India, with 10 subcenters in neighboring villages. It is projected that 80,000 people in 55 villages would be served. In order to win the cooperation and insure utilization of the centers by the community, a consultative committee made up of representatives from the villages was formed. Under-five clinics, a family welfare and nutrition program, mobile clinics, and school health projects have been started.

026.

Arole, R.S., Comprehensive rural health project, Jamkhed, India, Contact (Geneva). 10 August 1972, English, French.

Address given to the Christian Medical Commission, Geneva at its annual meeting in June 1972. A phased health programme for rural India is described. A health center based in Jamkhed, India, with 10 subcentres in neighboring villages provides diagnostic, emergency surgery, and medical care facilities. Initially funded by the Christian Medical Commission, the centre is intended to be self-sustaining after 6 years of operation and will serve up to 80,000 people in 55 villages. The programme, which will be coordinated with other government programmes, aims at reducing population growth rates, infant and child mortality, treating lepers, and the chronically ill. To achieve these goals, the support of the entire community is sought. In participating villages a consultative committee is formed including representatives from all strata of society. (Author)

027.

Beghin, I.D., Nutritional rehabilitation centers in Latin America: a critical assessment. American Journal of Clinical Nutrition (Bethesda, Md.), 23(11), November 1970, English.

In six Latin American countries Nutrition Rehabilitation Centers (NRC) are used as a partial solution to the nutritional problem. It is recommended that the NRC be integrated within the health center whenever possible for there should be more NRC's which provide wider coverage than health centers. These NRC's could be the model for community development programs or for applied nutrition programs in communities without health services.

028.

Centre d'Hygiene Familiale, Port-au-Prince. Laboratoire interdisciplinaire de medecine communautaire et de la planification (Interdisciplinary Laboratory on Community Medicine and Family Planning). Port-au-Prince, Haiti, Centre d'Hygiene Familiale, June 1973. French.

Proposal for the development of facilities for the promotion and preservation of health for the inhabitants in Plaine du Cul de Sac. The manual provides instruction for personnel working in this and other special programs. The manual explains what to do and when to do it, rather than how.

029.

Church, R., Voluntary nursing in the Yemen. Nursing Times (London), 69(18), 3 May 1073, English.

This article recounts the experiences of five British nurses of the Catholic Institute for International Relations (CIIR) in Yemen Arab Republic. They faced many problems common to developing countries; disease, high infant mortality, low physician patient ratio, and lack of sufficient medical facilities.

030.

Courtejoie, J., de Hertaing, I.R., Country hospital in the tropics. Kinshasa, n.p., n.d. English.

This article suggests that hospitals in Zaire should become more involved in preventive medicine through the schools and clinics. It also emphasizes the need for the combined efforts of hospitals and medical personnel in order to expand into regions of the country so as to benefit a larger number of patients.

031.

Fisek, N.H., Hacettepe University, School of Medicine, Institute of Community Medicine, Ankara. Account of the activities of the Etimesgut Rural Health District, 1967, 1968 and 1969. Ankara, Hacettepe Press, 1970, English.

This report gives a detailed description and evaluation of a project which was a joint venture of the Ministry of Health and the medical staff of the Hacettepe Hospital. The objectives of the project are to provide health care to the people of the Etimesgut Rural Health District, to provide training facilities for medical and paramedical personnel, and to carry on research in rural health administration and epidemiology of health and disease.

032.

Graham, J.D. Up-country medical practice in Kenya. Canadian Medical Association Journal (Toronto), 99, 17 August 1968, English.

The author feels that the health situation of Kenya has improved greatly. Health services are provided in the rural areas through government dispensaries and health centers, and by district hospitals or a hospital, Chogoria Hospital, run by a religious group in town. These facilities are involved in preventive as well as curative services. The training program is delineated and the responsibilities of each person upon completion of training is specified.

033.

Koje Do Community Health and Development Project, Koje Do, Kyung Nam, Korea. Koje Do project and community medicine. Koje Do, Korea, Koje Do Community Health and Development Project, 1973, English.

This project sponsored by the Christian Medical Commission of the World Council of Churches was established to bring low-cost health care to a rural population of approximately 30,800. The project functions are grouped in two parts: (1) the direct aspect which involves programs such as outpatient clinics, in-patient care, public health, maternal and child health and family planning, etc. and (2) the broader educational aspect which covers evaluation and planning, and training for residents, medical and nursing students, army-police medics and druggists.

034.

Laskin, Mark J., Commonwealth Caribbean Health Sector Study, Part I: The Health Sector in Perspective, The Caribbean Working Group, May 1977. Division of Program Analysis, OIH, DHEW for U.S. Agency for International Development, Washington, D.C., 1977.

In the Commonwealth Caribbean health services are provided at a variety of out-patient and in-patient facilities. The out-patient facilities may be directly associated with a hospital or they may be sources of primary care in a rural setting. All of these establishments usually serve as the center of health activities for both preventive and curative services. In-patient facilities deal almost exclusively with curative services. They may range in size from only a few beds to a large teaching medical center such as the University of the West Indies. The size of hospital facilities (in beds) is often a key indicator to the depth and breadth of specialized services offered. (Author)

035.

Moor, J.F., Maternity in an African village. Practioner (London), 200, June 1968, 847-852. English.

The Serovie Hospital is situated so as to serve the accessible villages located in the surrounding districts. The facility is described as well as the staff and their responsibilities. Through the use of record sheets, one year's statistical data is available on the numbers of deliveries, complications, maternal and perinatal mortalities.

036.

Shepherd P., Crossroads of the tribes. Saving Health (London), 12(2), June 1973, English.

The Waicote Hospital in Ethiopia is unique in that the church considers it an extension of its building program in the tribal area.

037.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development" I: Panama. By U.S. Department of Health, Education, and Welfare, Division of Planning and Evaluation. P.O. Woolley, Jr., M.D., M.P.H.; C.A. Perry, B.A.; R.N. Eccles, B.A.. Revised May 1972.

The resources with which the health sector in Panama has to work are limited in Several senses. A major problem is simply that there are not enough health personnel, facilities, nor financial resources to provide extensive health service to the whole population. If the population doubles in the next twenty years as expected, this problem will become worse. The overall physician-population ratio does meet the WHO minimum standard of one doctor per 10,000 persons. Usually, the physician has a private "clinic," works in one of the major hospitals or centers, and often teaches at the University of Panama Medical School. (Author)

038.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development" II: Honduras. By U.S. Department of Health, Education and Welfare, Office of International Health, Division of Planning and Evaluation. P.O. Woolley, Jr., M.D., M.P.H.; C.A. Perry, B.A.; W.S. Hays, B.A.; D.L. Larson, B.A. May 1972.

In summary, the health resources are simply not adequate to meet the needs of the population. The supply of facilities and personnel is too small and is inappropriately distributed. The mixture of categories of health personnel, especially the non-physician professionals, prevents the efficient utilization of the physician's skill and time. The health resources are consumed in a wasteful manner by treating diseases that could have been prevented. (Author)

039.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health Socioeconomic Development. V: El Salvador. By U.S. Department of Health, Education, and Welfare, Office of International Health, Division of Planning and Evaluation. P.O. Woolley, Jr., M.D., M.P.H.; C.A. Perry, B.A.; D.L. Larson, B.A.

The quality of medical care is higher in the metropolitan areas than in the rural areas. Most of the population is rural, and although there are programs requiring doctors to practice for at least one year in rural areas, the quality of care still leaves something to be desired. According to the Ministry of Health, 85.6% of the population is covered by health services. This is misleading because over half of the facilities are "health stations"; these are small facilities which are inadequately staffed and receive only periodic visits by medical personnel. (Author)

040.

Syncrisis: The Dynamics of Health: An Analytic Series of the Interactions of Health and Socioeconomic Development. VI: Haiti (Revised) By U.S. Department of Health, Education and Welfare, Public Health Service, Office of International Health. Arne Barkhuus, M.D., Dr. P.H.

Haiti is essentially an agricultural country and 80 percent of the population is in rural areas; two-thirds of resources for health are concentrated in urban areas and particularly in the capital. In order to establish a more equitable distribution of the limited resources, regionalization is required in order to achieve: (1) better distribution of the budgetary resources for health; (2) more efficient supervision; and (3) more effective utilization of all the other resources. (Author)

041.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. VIII: Ethiopia. By U.S. Department of Health, Education and Welfare, Office of International Health, Division of Planning and Evaluation. Rose A. Britanak, Dr. P.H.; Joe H. Davis, M.D.; John A. Daly, M.S. April 1974.

It is estimated that each center can service about 20,000 to 30,000 persons, depending on road conditions and population density. Health center facilities are generally considered poor, with very little medical equipment and activity limited due to the shortage of personnel. Expansion of the number of health centers depends largely on the number of trained personnel graduated from the Condar Health College which trains almost all health workers. (Author)

042.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XI: Nicaragua. By U.S. Department of Health, Education, and Welfare, Office of International Health, Division of Planning and Evaluation. B. Holland, M.P.H.; J. Davis, M.D.; L. Gangloff, B.A. November 1973.

The problem of poor medical care coverage, however, appears to be related more to socio-cultural factors than to lack of availability of facilities. Before the earthquake there were 56 hospitals in Nicaragua containing a total of 4,938 beds. The bed per population ratio at that time was 2.4 per thousand population, more than double the WHO minimum standard. (Author)

043.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XII: Thailand. By U.S. Department of Health, Education and Welfare, Office of International Health, Division of Planning and Evaluation. Paul O. Woolley, Jr., M.D., M.P.H.

45% of the total 556 districts, (each district equals about 50,000) have 1st class Medical Centers. Of these 252 1st class centers only 180 have trained MDs with the knowledge and legal authority to diagnose and treat patients with "modern" medicine. (Author)

044.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XIII: Botswana, Lesotho and Swaziland. By U.S. Department of Health, Education and Welfare, Office of International Health, Division of Program Analysis. Nancy R. Pielemeier, M.H.S. May 1975.

Health services in Botswana are provided by both government and the private sector--largely by missions. Existing facilities include 7 government and 5 mission general hospitals, 2 hospitals serving industries and 8 health centers (6 government, 2 mission), some 37 clinics and 160 health posts. (Author)

045.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XIV: Zaire. By U.S. Department of Health, Education and Welfare, Office of International Health, Division of Program Analysis. Karen E. Lashman. June 1975.

Statistics on the number of national health facilities reported in the 1972 publication, Profiles du Zaire, of the Office of the President, are not considered reliable. Importantly, they do not reflect such critical qualitative factors as whether the enumerated facilities were staffed or equipped. The most current information on health facilities is that obtained in a 1974 tally by the Protestant Missions. (Author)

046.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XVIII: Pakistan. By U.S. Department of Health, Education and Welfare, Public Health Service, Division of Program Analysis. Arthur H. Furnia, Ph.D. June 1976.

548 hospitals, 3,086 dispensaries, 715 maternity and child health centers, 137 rural health centers, 369 sub-centers of rural health centers and 92 tuberculosis clinics. There were also in 1975 a total of 38,033 hospital beds of which 7,379 beds were in rural areas. Over one-third of the posts for physicians in the public health service (presumably at rural hospitals) and all in the rural areas were vacant. (Author)

047.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interactions of Health and Socioeconomic Development. XIX: Senegal. By U.S. Department of Health, Education and Welfare, Public Health Service, Division of Program Analysis. Robin J. Menes, M.H.S. June 1976.

The majority of the rural areas are without the benefit of basic health services on a regular basis. Trained personnel are inadequate in number at all levels with weak supervision throughout the health delivery system. There is an increasing tendency to refer even simple cases to Dakar, thus overburdening the hospitals in the capital. (Author)

048.

Thede, J.C., Agony in the Amazon. Nebraska Nurse (Omaha), 1(16), November 1968, English.

A nurse sponsored by the Nebraska Amazon Project set up a clinic in Almeirim, Brazil, a community of 3,000, and no doctors. The diseases and diet of these people are described. A Mother's Club was started to teach people to grow a wider variety of nutritious foods and to encourage acceptance of these foods. A new ambulatory-maternity clinic being built is described.

049.

Waddell, F.M., Second class medicine? Saving Health (London), 10(3), September 1971, 45-47, English.

In comparing health needs in a developing country with those in a developed country, a British doctor working in Uganda found that the quality of service could be similar even though the caseload is higher and the finances are lower in the developing country. He states that most of the diseases could be treated through mass immunization since they are basically communicable in nature. He describes the system of Kagando Hospital which permits everyone to receive health care, even the poorest person.

MANPOWER

050.

Central Treaty Organization, Ankara. Teaching health centres. Ankara, Central Treaty Organization, 1962. English. Conference on teaching health centres, Ankara, Turkey, May 1962.

Public health experts from U.K., U.S.A., Turkey, Pakistan and Iran met to determine the benefits of health center training for medical students, to consider the organization and duration of such training, and to suggest administrative and staffing requirements. This Conference on Teaching Health Centers was significant in its assessment values of health personnel with an impact on health facilities.

051.

Eraj, Yusuf Ali. The Organization of Doctors and the Improvement of Health Services in the Developing Countries. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author discusses the plight of the physician in many developing countries. They often have tremendous workloads, work under very poor conditions, have low salaries, and have no say in national health policy. He advocates trade unions for physicians in developing countries. He hopes that unionization will give them a stronger voice in confronting their problems. At the end of this article, the author itemizes and discusses briefly 13 goals of an organized trade union for physicians.

052.

Iran, Ministry of Health. Health corps: a new approach to the better distribution of the health resources, on the occasion of the tenth anniversary of the White Revolution in Iran. Iran, Health Corps Organization, January 1973, English.

The Health Corps is made up of trained medical personnel and auxiliary health workers (could be high school graduates). Statistics are given on family planning, public health, waste disposal, water supply treatment, and health education. If the concept of the health corps new distribution system approach is

successfully implemented, many new facilities could not only be built but properly staffed as well.

053.

Sharma, B.N., Surgery in camps. Journal of the Indian Medical Association (Calcutta), 53, 16 October 1969, English.

These surgical camps operate for 10 months each year in rural areas of India. They serve as training ground for young residents and provide a form of comprehensive care for patients living near the camps. The local residents are required to provide funds to feed the patients. A variety of specialists come to the areas which are in need of health services, including medical care.

MOBILE UNITS

054.

African Medical and Research Foundation, Nairobi. Flying doctor services training centre. Nairobi, African Medical and Research Foundation, February 1973, English.

Flying doctor service is provided by the African Medical and Research Foundation to outlying East African hospitals and clinics in rural districts. The primary emphasis of the service is to bring curative and preventative medicine to remote groups and communities.

055.

African Medical and Research Foundation, Nairobi. A flying doctor service: (and) a radio-communications network. Nairobi, African Medical and Research Foundation, n.d. English. Unpublished document.

The health facility in some remote East African regions is provided advice through the use of the radio in cases of emergency where the doctor is unable to attend personally because of distance.

056.

Bodenheimer, T.S., Mobile units: a solution to the rural health problem? Medical Care (Philadelphia), 7(2), March-April 1969, English.

Due to the small number of stationary health facilities available, mobile units are suggested as a feasible alternative. The author's reasons for this are based upon the geographic-demographic layout and the type of health service desired. Periodic, as opposed to comprehensive continual care can be provided more effectively with mobile units. Thirdly, the cost of mobile units is much less than stationary units.

057.

Bruce, S., Busoga eye project. Nursing Times (London), 63(38), 22 September 1967, English.

The African Medical and Research Foundation with the support of the Royal Commonwealth Society for the Blind started a project to eradicate trachoma from the Lake Victoria area of Uganda. It was found that a program in the schools alone did not work as well as when the home and school efforts were coordinated. A mobile vehicle was equipped with a nurse, a health educator, and a driver.

058.

Burkitt, W.R., Work of the Kenya mobile eye unit with clinical observations on some common eye diseases. British Opthalmology (London), 52, April 1968, English.

The Unit staff visits health centres in a Land Rover carrying camping equipment, operating equipment, and drugs. Advance preparation of the community greatly contributes to the success of the visit. The unit performs cataract operations, distributes eye glasses, does trachoma surveys, treats trachoma and eyestrain, and generally attempts to educate the community in the prevention of blindness. (Author)

059.

Burkitt, W.R., Rural mobile medicine in Kenya. East African Medical Journal (Nairobi), 46(10), October 1969, English.

The details of a mobile eye examination program is provided to a large number of Kenya's residents. Many of the problems encountered are discussed in detail with cost considerations as an important variable.

060.

Cox, P.S., Value of mobile medicine. East African Medical Journal (Nairobi), 46(10)k October 1969, English.

The examination of mobile medicine's role in East Africa is analyzed in the overall context of health facilities. The author suggests that medical centers should be established to provide backup for the mobile medical units. Air ambulance services should be set up.

061.

Cutting, W.A., Every child's birthright. Saving Health (London); 10(3), September 1971, English.

This article discussed two types of medical services available in Jammalamdugu, India. The local hospital developed a parent-oriented nutrition-education and under-fives' clinics to combat malnutrition in children. Also implemented was a mobile maternal and child health clinic with training of health workers at the village level.

062.

de Glanville, H., East African flying doctor service. Kenya Nursing Journal, (Nairobi), 1(1), June 1972, English.

The flying doctor service consists of surgeons going to the aid of isolated hospitals and dispensaries so as to provide emergency care to patients when required.

063.

Duraiswami, P.K., Multipurpose role of mobile hospitals in rural India. Journal of the Royal College of Surgeons of Edinburgh (Edinburgh), 16(2), July 1971, English.

The author promotes the need for multipurpose roles of mobile hospitals in rural India. This involves the training of more professionals in medical colleges to be established in districts of one million residents. The shortage of medical doctors is due to the large emigration to Western countries.

064.

Woolman, A., Mountain nurse. Saving Health (London), 10(4), December 1971, 65-69, English.

The description of a rural hospital in Lesotho is examined. Poor transportation prevents the expansion of the antenatal clinic. Horses are the main source of transport utilized by mountain nurses.

065.

Graver, V., You have to be ready for anything. Zambia Nurse (kitwe, Zambia), 2(5), June 1967, English.

The author reveals how effectively a mobile van can be utilized in providing leprosy treatment; also treatment for polio and other diseases at Alupe near the Kenya/Uganda border.

066.

Holz, P., Mobile clinic to combat trachoma. Eye Ear Nose Monthly (Chicago), 45, October 1966, English.

Trachoma rates are high among residents in the northern region of South Africa. Through the aid of a surgeon, nurse, and social worker traveling in a mobile van, children and adults are receiving treatment and medication. Over 3,000 operations have been performed by this unit.

067.

Vintinner, F.J., Mobile rural health services program in Central America and Panama. American Journal of Public Health (New York), 58(5), May 1968, English.

This mobile program provides care for 2 million people in rural areas of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. This self-help medical program is jointly funded between the governments and the United States Agency for International Development. Many health facilities have been constructed as a result of the stimulus for combined efforts which the mobile program provided.

068. Westwater, K., Dentistry with the Zambia flying doctor service. Dental Practitioner and Dental Record (Bristol), 20(2), October 1969, English.

The Flying Dentistry Service of Zambia has been highly received by a large number of its citizens in the rural areas. Without the aid of a flying facility many residents probably would never have been treated by a dentist within their lifetime.

069.

Wilkinson, J.L., Smith, H., Smith, O.I., Organization and economics of a mobile child welfare team in Sierra Leone. Journal of Tropical Medicine and Hygiene (London), January 1967, English.

It was through the establishment of a mobile child welfare team (visiting villages within a 200 mile radius) that malnutrition was effectively combatted in Sierra Leone.

PLANNING

070.

Blandford, J.M. Organization of the Pre-Design Phase, Operational Policies-Methodical Programming. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

This article discussed approaches to problem solving and management rather than solutions. The author suggests that if sufficient attention is paid to the basic objectives of the scheme--such as the way in which decisions will be made, the time available, approvals to be obtained, finance required--later problems would be almost eliminated. He suggests that countries developing a new health service facility give a high priority to training a core of staff in a central bureau who would act on behalf of the health authority. He gives the components for this team and what their functions would be. Later he analyzes the decision making process and defines the types of decisions which have to be made.

071.

Bridgman, R.F., (Dr.), Regional Planning of Health Care Facilities and Regional Collaboration Between Health Care Institutions. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

Bridgman defines regionalization as "a concept aimed at adapting an administrative structure to govern a network of interrelated institutions to local geography and population distribution on the one hand, and the special activities to the prevailing problems in the region on the other." He defines hospitals according to the special services they provide from the largest to the smallest. The Regional Hospital, the intermediate hospital, and the local hospital. He feels that integration is the key word. Patients treated at one level may be referred to a more specialized level. This involves the flow of people and papers. The size of the region, transportation, and ownership of the facility could facilitate or hamper regionalization. The author discusses the extreme importance of the local hospital and how it lends itself for regionalization of preventive services.

072.

Bridgman, R.F. Approaches to Planning and Design of Health Care Facilities in Developing Areas. Vol. I, WHO Offset Publication No. 29, Geneva, 1976.

Bridgman starts his paper with the most important issue of patient utilization of health care facilities. He suggests that in a number of these developing countries, health care is a low priority item. He discussed several stages (phases) these countries will pass through in the development of health services and in the administration of health facilities.

073.

Burfield, John. Future Development of Health Planning Policy. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author points out that the health of a population is related to its standard of living. In developing countries health is affected by climate and culture to some extent, high fertility levels and frequent pregancies, water and sanitation, housing and overcrowding, and malnutrition. He discusses approaches to health policy which would maximize health benefits for the whole population. He uses the development of health services in People's Republic of China as an example. He emphasizes that health service to the poor must change from intermittant curative medicine for individuals to promotion of health on a continuous basis at the community level.

074.

Bergun, J. Armand, The Planning and Building of Health Care Facilities - Some Principles. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author states 5 functions of the health care facility: the facility should:(1) promote and aid the successful operation of the central health care delivery

system; (2) provide ease of access; (3) be a generator of epidemiology and preventive medicine; (4) teach nutrition, health care and safety; and (5) facilitate diagnoses, treatment, care and rehabilitation. However, none of these functions can be carried out in a vacuum, but in conjunction with other environmental forces impinging on the people; poor nutrition, unemployment, poor transportation, unsafe and polluted environments. The author states that the hospitals themselves contribute to the pollution problem through the large number of disposable items used and waste disposal. He suggests hospitals use more reusable items and also find commercial use for the effluent waste. Additionally, to cut cost, the use of existing structures is recommended.

075.

Kleczkowski, B.M., Pibouleau, R., Approaches to Planning and Design of Health Care Facilities in Developing Areas, WHO Offset Publication No. 29, Vol. I, Geneva, 1976.

This source is considered mandatory for any planners to review in order to understand what has been accomplished and how to plan health facilities in developing countries. Actual facility designs and architectural layouts are provided along with other factors to be considered.

076.

Merrill, Malcolm H., M.D., Planning and Organization of Health Care Services. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author presents the concepts of the total health service system in which the health facilities evolve in a pyramid with rural community sub-centers as the foundation. These sub-centers should be local, low-cost facilities which give minimal health services to the majority of the people. He indicates factors such as population, geographic location of population, population trends, and the magnitude of respective health problems as factors to consider when planning a facility. A description of (DEIDS) Development and Evaluation of Integrated Delivery Systems, a joint project of APHA and AID. The author points out many factors which need consideration in planning which include: determining disease pattern in the project area, current health services structure, assessment of the resources available, cultural factors, etc.

077.

Miskiewicz, Marian W. The Role Area-Wide Planning and Functional Programming in the Planning Process for Medical Care. Vol. I., WHO Offset Publication No. 29, Geneva, 1976.

The author gives a rather extensive list of factors to be considered in area-wide planning. In addition she presents a list of variables which might affect utilization of the facility, such as: low motivation for obtaining medical care, lack of confidence in or conviction about such care, failure of medical care to meet consumers' expectations, insufficient health education, or opposed religious convictions, financial considerations, health or administrative policies, accessibility, and the behavior and attitude of the medical and auxiliary personnel

are other reasons for low utilization by the general population. Lastly, she goes into great detail on placement of the rooms and services in the medical care facility and the reasons for such placement.

078.

Pibouleau, R.F., Introduction to National and International Exchange of Knowledge and Experience. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author indicates that even though there is considerable information on the planning and construction of health facilities, information exchange should meet three qualifications: it should be relevant to developing countries, it should not be too general or detailed in such a manner to make it useless, and it should be in an appropriate form according to the functions and background of the participants. He discusses three obstacles to information exchange: confidentiality, language barriers, and insufficient knowledge of source of information, and how to overcome them.

079.

Sahl, R.J., Priorities in Planning and Organization. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The author poses the question of how can an up-to-date high quality health care facility be achieved where supplies of staff, materials and finances are limited? He points out that planning is essential in order to obtain the best possible facilities which provide health care for the patient, and training for staff. He feels that comprehensive facilities and services could be available in time, but that priorities must be set in order to have the best available now. Priorities need to be set in type of service to offer, types of physicians required, comprehensiveness of treatment, type of building equipment to use, etc.

080.

Syncrisis: The Dynamics of Health: An Analytic Series on the Interaction of Health and Socioeconomic Development. III: Perspectives and Methodology. By U.S. Department of Health, Education and Welfare, Division of Planning and Evaluation. P.O. Woolley, Jr., M.D., M.P.H.; W.S. Hays, B.A., D.L. Larson, B.A. June, 1972. (2)

Inherent in the concept of problem identification is the realization that planning for health involves consideration of phenomena in areas other than health itself. It concerns the effects that actions in other sectors and areas have upon health, at all levels. Sectors are arbitrary ways of conceptualizing complex systems of social, political, and economic interactions which are mutually interrelated. (Author)

081.

Zukin, P. Health Planning for Economic Development Projects. Arch. Environ. Health, Vol. 25, October 1972.

Health factors may be important determinants of the outcome of economic development projects. Conversely, economic development projects may have significant

effects on health status. By employing a methodological approach similar to that used in the personal health examination, an economic development project may be analyzed and evaluated in terms of health considerations. A technique for carrying out such an analysis, leading to a detailed statement of health-related actions (and their costs) necessary to cope with health problems pertinent to an economic development project, is described. (Author)

This is mandatory reading for all health planners in developing countries.

PRIMARY CARE

082.

Bolton, J.M., Medical services to the aborigines in West Malaysia. British Medical Journal (London), 2, 29 June 1968, English.

Up until 1955 medical care to the aboriginal people of West Malaysia was practically non existent. The people accepted Western medicine with some reluctance after their contact with Western civilization resulted in a high mortality rate. Gradual improvement of relations led to the development of jungle medical posts set up and staffed by aborigines trained as auxiliary health workers.

083.

Byer, M.A., Dyer, H., Gourlay, R.J., Standard, K.L., Role of the health center in an integrated health programme in a developing country. Medical Care (Philadelphia), 3, 1966, English.

The advantages of an integrated and comprehensive curative and preventive medical service are described. The role of the health center in such a service is emphasized, and a broad plan for the regionalization of health centers providing community care in Jamaica is described. (author abstract)

084.

Costa Rica, Ministry of Public Health. Puestos de salud rural. (Rural health posts). San Jose, Ministry of Public Health, General Health Division, Rural Health Programme, October 1973, Spanish.

This is a proposal for improving health in rural areas in Costa Rica. The objectives of the program are to use simple techniques, train indigenous personnel, encourage the use of community materials, finances and manpower and keep epidemiological watch. This document gives building specifications, office facilities needed, etc.

085.

Dadgar, M., Saroukhanian, G., Health Corps in Iran: an approach to the better distribution of health resources in remote areas. In Wolstenholm, G., O'Connor, M., eds., Teamwork for World Health, London, J. and A. Churchill, 1971, English.

Even though Iran has 810 clinics provided by the Ministry of Health and 400

clinics run by the Health Corps, health manpower remains unevenly distributed. Most physicians live in urban areas. Women make up 10-15% of medical school graduates, and military personnel have been utilized in providing health services. This new program, designed to better distribute health resources to remote areas, was highly endorsed by rural communities.

086.

Dimataga, A.L., Rural needs and problems. Newsette (Makati-Rizal, Philippines), 8(2), April-June 1968, English.

Due to the expense of supplying health services to rural areas in the Philippines, civic and religious groups play an important role in supplementing government services. One such group, the Puericulture Centre and Maternity House provides maternal and child health services, and family planning. The center services about 1,000 patients a month.

087.

Du Toit, A.E., Johnson, S., Coster, M.E., Functions of a health centre. South African Medical Journal (Capetown), 45, 20 March 1971, English.

Due to the inadequate concept of the function of a health center, the first health center in Johannesburg, South Africa, was not completely successful. A survey was taken to find out ways of improvement of services. The ideal functions of a health center are defined.

088.

Faria, H.V., Venezuela, Ministry of Health and Social Welfare. Hospital Chiquinquira: programa funcional. (Chiquinquira Hospital: functional programme). Caracas, Ministry of Health and Social Welfare, June 1973. 107p. Spanish.

One main feature of this work is a chart which describes the health organization of Zulia State (Venezuela). It points out the inter-relationship between the health districts and the rural health centers, how these health centers relate to the rural dispensaries and the dispensary relationship to the health posts. Numerous statistical documents on the number of outpatients to be visited on a monthly or yearly basis are provided.

089.

Fendall, N.R., Health Centres in Kenya. East African Medical Journal (Nairobi), 37(3), March 1960, English.

The author states that the health center concept is the most economical and realistic approach to health for the populations of developing countries. He gives at least thirteen suggestions or underlying principles which could make the health center a success.

090.

Flavier, J.M., Rural public health: a search for an answer. Philippine Journal of Nursing (Manila), 37(1), January-March 1968, English.

In the Philippines, where 75% of the population lives in rural areas, very few of the cases which result in death were seen by a physician. Although the rural health unit is well received, there is a problem of maintaining a corps of trained medical personnel.

091.

Jorgensen, Thomas A. The Rural Hospital in East Africa. World Hospitals, Vol. XI, Nos. 2 & 3, 1975.

The primary emphasis of the article is his statement that the primary health care center can deal adequately and economically with 99% of the medical needs of the rural population; it is basically outpatient care, to be offered at dispensary and health center level.

092.

Khuri-Otaqui, S., Family service center program: description and analysis. Nicosia, Cyprus, Near East Ecumenical Committee for Palestine Refugees, 1972. English.

The Near East Council of Churches Committee for Refugee Work (NECCRW) helped establish several family centers, one along the West Bank, the Gaza Strip, in East Jordan, and in Lebanon. Their program emphasized self-help and community involvement in all services which included nutrition, hygiene, medical and nutritional facilities for children. A detailed description of each center's function is given.

093.

Matovu, H.L., Bennett, F.J., Namboze, J.N., Kasangati health centre - a community approach. East African Medical Journal (Nairobi), 48(1), January 1971, English.

The Kasangati Health Center in Uganda has received wide acceptance and utilization by the community residents because of its strong emphasis on health education and community participation. Accurate medical record procedures have been instituted enabling research and evaluation in maternal and child health focusing on morbidity and mortality rates.

094.

Segall, M., Medical Care in North Vietnam. Lancet (London), 6 June 1970, English.

This book focuses on a historical review of health services in Vietnam prior to

1964. The decentralized nature of the health system characterized by village clinics supported by 50-bed district hospitals permitted continuous medical care to the people in the countryside. Nearly every village in the plains and two-thirds of the hills had health centers.

095.

Waddy, B.B., Rural health services in the tropics and the training of medical auxiliaries for them. Transactions of the Royal Society of Tropical Medicine and Hygiene (London), 57(5), September 1963, 384-391, English.

The author contends that the continued building of more hospitals in the urban areas is not the answer to the majority of the people's health care problems in developing countries. The largest number of residents in developing countries live in the rural areas and there is an absence of facilities. Curative as opposed to emergency care must be instituted in the health center in rural areas.

096.

Wells, M., Planning of health buildings. Tropical Doctor (London), 3(4), October 1973, English.

The author contends that health centers are taking the place of hospitals in underdeveloped countries. In many cases large hospitals have satellite clinics or hospitals scattered throughout the country. These clinics are poorly staffed and inadequately supplied. These clinics could become more effective if resources were made available.

097.

WHO, Brazzaville. Health service as a factor in regional integrated rural development. Brazzaville, WHO, 6 November 1969. 11p. WHO/AFR/PHA/55. English, French.

The major theme emphasized is the integration of health centers with community development, agricultural extension and adult literacy programs.

SECONDARY CARE

098.

Hill, G.J., Herrera-Acena, M.G., Arboleda, G., Montoya, R., Surgical education in a developing country: participation of a rural community hospital in Colombia. Archives of Surgery (Chicago), 106, March 1973, English.

The Health Department of Antioquia, Colombia built a 25-bed hospital in 1968 in Apartado, a rural area. This hospital serves as the center for Public Health, for acute care and as a training center for young doctors, interns, nurses and nurses aides. Harvard School of Public Health worked in conjunction with the University of Antioquia School of Medicine and the Health Department of Antioquia in developing this new facility.

099.

Jackson, P., Egbe Hospital: past, present and future. Saving Health (London), 11(3), September 1972, English.

The experience of a doctor, who is the sole physician at a 120-bed hospital in Kwara State, Nigeria, is provided. He has a new maternity ward and clinics for antenatal, postnatal, and family planning. The difficulty if manpower. Most Nigerian physicians live in urban areas. There are limited numbers of rural health facilities throughout Nigeria which condition forces many rural residents to travel, and in some cases relocate, to the city to obtain health care.

100.

King, M., Laboratory. In: King, M., ed., Medical Care in Developing Countries, Nairobi, Oxford University Press, 1966. English

This chapter describes extensively a range of methods that could be utilized to establish a basic laboratory service on a limited budget. There is also information included on training laboratory personnel, collection and transport of samples, heating and lighting, records management, and selection of equipment.

UTILIZATION

101.

Morley, D., Christian Medical Commission, World Council of Churches, Geneva. Some steps through which church-related hospitals may become more deeply involved in community health care. Geneva, Christian Medical Commission, 1972. English. Unpublished document.

This paper suggests services which might be undertaken by hospitals and health workers to improve health care for the community, but more importantly to increase utilization. The appendix is a questionnaire to test personal opinions about various aspects of health and hospital work.

102.

Rao, P.S., Richard, J., Measuring community responses to health center programmes. Indian Journal of Medical Research (New Delhi), 58, 7 July 1970, English.

The author acknowledges that those persons in greatest need of health care tend not to take advantage of what's available for various reasons. Such reasons are ignorance, tradition, and superstitions. The design of the author's instrument to evaluate rural patients and their participation identified three respondents: the community leaders, the patient, and the community doctor.

103.

Zaire, Department of Public Health. Programme de sante Publique en zone rurale: bilan des projets du departement de sante publique, Hospital de Vanga (Zaire). (Public health programme for the rural sector: evaluation projects of the Department of Public Health, Vanga Hospital). Kinshasa, Department of Public Health, May 1973, French.

Village health workers assist the public health efforts of the Vanga Hospital, Zaire, by coordinating visits of the mobile health team, keeping records of health statistics, etc. These statistics are significant in determing patients' utilization of this facility.

OTHER SOURCES OF INFORMATION

Since information is relatively scarce, and what is available is scattered through various publications, these key sources of information are presented. These publications collect and disseminate updated vital information on health facilities throughout the developing world.

104.

The following list was published in World Hospitals (Vol. XIII, No. 1/2) in 1977.

Bahrain
- State of Bahrain: health services, Ministry of Health, 32pp.
- A plan of development for the health centres of Bahrain, 1978-80, Ministry of Health, 1978, 54pp.
- On the state of the public health, State of Bahrain, Ministry of Health, Public Health Directorate, Annual Report 1977, 116pp.

Mr. Mohamed R. Tajiir, Ministry of Health, Administration and Planning Affairs, P.O. Box 12, Bahrain, Arabian Gulf.

Botswana
- National development plan, 1976-81, May 1977, Part I: Policies and objectives. Part II: Description of public expenditure programme, 402pp.

Permanent Secretary, Ministry of Health, Private Bag 0038, Gaborone.

Brazil
- Lei no 6.229, de 17 de julho de 1975. Dispoe sobre a organizacao do sistema nacional de saude (Portuguese).

Sr Helvecio Boaventura Leite, Presidente, Federacao Brasileira de Hospitais, Rio de Janeiro, Rua Anfilofio de Carvalho 29, Brazil.

Cape Verde
- Estrategia nacional de Saude (Portuguese) 76pp.

Ministerio da Saude e Assuntos Sociais, Caixa Postal no 47, Praia, Republica de Cabo Verde.

Cyprus
- Second emergency plan of economic action (1977-1978) (Greek) 226 pp.

Director general, Ministry of Health, Nicosia, Cyprus.

Denmark
- Health services in Denmark. Amtradsforeningen i Danmark 1976 (English) 64pp.
- Lov om sygehusvaesenet. Ajourfort af Amstradsforeningens sekretariat pr 1 April 1978 (Danish) 4pp.
- Vejlededende retningslinier for planlaegning of psykiatrisk sygehusvaesnen 1977, p. 380-402. (Danish)
- Vejledende retninglslinier for plantaegningen af sygehusvaesenets fremtidige udbygning, Indenrigsministeriet 1971 (Danish) 16 pp.
- Vejledende retningslinier for adarbejdelsen af planer for driften af behandlings-institutioner for alkoholskadede, Indenrigsministeriet 1975 (Danish) 12pp.
- Forelobige vejledende retningslinier for oplysningsvirksomhed om svangerskabsforebyggende metoder, Indenrigsministeriet 1976 (Danish) 12pp.
- Bekendtgorelse af lov om svangerskabshygiejne og fodselshjaelp, Indenrigsministeriet 1975 (Danish) 4pp.

Mr. Lone Isskov Meyer, Amstrads Foreningen i Danmark, Landemaerket 10, 1119 Copenhagen K.

Finland
- Laakintohallitus: Health planning, Finland 1978. (English) 58pp.
- Laakintohallitus: Health and health services in Finland 1977 (English) 86pp.

Mr. Pekka Pitkanen, Senior Planner, National Board of Health, Siltasaarenkatu 18A, 00530 Helsinki 53.

- Five year plan for organizing national health care and hospital activities, 1979-83, Helsinki 1978, 64pp.

Obtainable from Valtion painatuskeskus (State printer), PL 516, 00101 Helsinki 10 (Finnish). Further information from: Riitta Lehtonen, Information Secretary, Finnish Hospital League, Rautatielaksenkatu 6, 00520 Helsinki 52.

France
- Composants hospitaliers types (standard modular hospitals), Ministere de la Sante et de la Securite Sociale, 20pp. plus 13 pull-out diagrams. (French with English translation).

M Pierre Raynaud, Delegue General, Federation Hospitaliere de France, 83 a 87 Avenue de'Italie, 75013 Paris.

German Federal Republic
- Krankenhaus-Bedarfsplane der Lander (tables giving summary of regional hospital plans) (German) 4pp.

Dr. Haines, Bundesminister fur Arbeit und Sozialordnung, 5300 Bonn 1, Postfach 14 02 80.

- National plans, programmes and guidelines for hospital and health service development, 1978-81 (German) 129pp.

Professor Dr. H.W. Muller, Deutsche Krankenhaus Gesellschaft, 4 Dusseldorf 30, Tersteegenstrasse 9.

Italy

- L'assistenza ospendaliera in Italia. Legislazione statale regionale. Centro Studi del Ministero della Sanita, Quaderni de documentazione (Italian) 922 pp.
- L'istituzione del servizion sanitario nazionale, Vol. I (590pp.) and Vol. II 504pp), Centro Sutdi Ministero della Sanita/Rapporti, 1977. (Italian)

The Ministry of Health, Viale industriale, 00144 Rome.

New Zealand

- Planning guidelines for hospital beds and services 1977. Issued by the Division of Hospitals in association with the Management Services and Research Unit, Department of Health, Wellington, New Zealand, 44pp.
- Health centres: a study of planning requirements. Report No. 6 prepared by the Hospital Design and Evaluation Unit, Department of Health, Wellington, 1978. 98pp.
- Special Advisory Committee on Health Services Organisation: proposed Northland pilot scheme. Framework for discussion, November 1977, 32pp.

Dr. D.M. McLellan, Department of Health, P.O. Box 5013, Wellington.

Panama

- Actividades y logros de los programas de salud (Spanish) 38pp.
- Politica y programas de salud de Panama (Spanish) 10pp.
- La salud Panamena en cifras, 1975 (statistics leaflet). (Spanish)
- Estadisticas de salud, 1975. 166pp. Boletin especial, Encuesta de recursos de salud (Spanish) 68pp.

Dr. Enrique Garcia, Director del Departamento de Planificacion de la Salud, Ministerio de Salud, Apartado Postal 3462, Panama 1.

Portugal

- Bases do servico nacional de saude. Ministerio dos assuntos sociais, Lisbon, 1978. Government document. (Porguguese) 14pp.
- Que saude para Portugal. Anteprojecto do SNS proposto pela seccao regional do sul da dorem nos medicos, 1978. Document produced by the Medical Association and a political party. (Portuguese) 6pp.
- Proposta do partido politico centro democratico social. Document produced by the Medical Association and a political party. (Portuguese) 10pp.

Professor Coriolano Ferreira, Escola Nacional de Saude Publica, Avenue Padre Cruz, Lisbon 5.

Saudi Arabia

- Second five-year socioeconomic plan for the years 1975-80, p. 375-385. (English).

Dr. Hussein Gezairy, Minister of Health, Riyadh.

Scotland

- The health service in Scotland: the way ahead. Scottish Home and Health Department, HMSO, 1976. 23pp.

Dr. J.H. Grant, Director, Scottish Health Service Planning Unit, Trinity Park House, South Trinity Road, Edinburgh, EH5 3SF.

South Africa
- The health of the people: a review of health services in the Republic of South Africa in the mid-seventies. Chris Van Rensburg Publications Ltd. 1977 (English). 140 pp.
- Annual Report of the Medical Office of Health, Cape Town, 1977, (English) 124pp. and tables.
- Report of the Secretary of Health for the year 1977. Department of Health, 1977, pp. (English) and 99pp. (Afrikaans).

The Secretary of Health, Civitas Building, Private Bag X88, 0001 Pretoria.

Thailand
- Thailand Health profile. Summary of the past and current activities of the Ministry of Public Health, with other public health information of general interest, Bangkok, Ministry of Public Health, 1976, 116pp.
- Staffing patterns of rural health facilities in the AFPH Provinces (Statistics, one page).

Dr. Prapont Pivaratn, Deputy Minister of Public Health, Devaves Palace, Bangkok.

USA
- National Health Planning and Resources Development Act of 1974, 52pp.
- Health planning guidelines, 1978.
- Forward plan for health, 1978-82. U.S. Department of Health, Education and Welfare, Public Health Service, August 1976, 138pp.

Mr. J.A. McMahon, President, American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611.

Venezuela
- Revista Venezolana de Sanidad y Asistencia Social. Vol. XLI, 1976, extraordinario. A comprehensive review of health programmes in a rural setting (Spanish) 406pp.

Ministerio de Sanidad y Asistencia Social, Oficina de Publicaciones, Biblioteca y Archivo, Caracas, Venezuela.

Wales
- Health service planning: service planning 9. Format of area plans, 1978-9, 1978, 6pp.
- Joint financing of personal social services projects (circular), 2pp.

Health and Social Work Department, Welsh Office, Pearl Assurance House, Greyfriars Road, Cardiff CF1 3RT.

105.

Abstracts of Hospital Management Studies. International journal with abstracts of studies of management, planning and public policy related to the delivery of health care. Classified arrangement with author and subject indexes. Quarterly with annual cumulations. Co-operative Information Center for Hospital Management Studies, School of Public Health, University of Michigan, Ann Arbor, Michigan 48104, United States of America. (W.H.)

106.

African Medical and Research Foundation, P.O. Box 30125, Nairobi, Kenya. (W.H.)

107.

Agricultural medicine and rural health. Periodic journal of the International Association of Agricultural Medicine and Rural Health, c/o Dr. Toshikazy Wakatsuki, Saku Central Hospital, 197 Usuda Machi, Minami Saku Gun, Nagano Prefecture 384 03, Japan. (W.H.)

108.

American Public Health Association, Division of International Health Programs, 1015 Eighteenth Street N.W., Washington, D.C., 20036, USA. (W.H.)

109.

British Medicine. Guide to current literature, including British books, research reports, government publications and prinicpal contents of British medical periodicals. Arranged alphabetically by author within wide subject areas. Monthly, annual, author and subject indexes. Medical Department, British Council, 10 Spring Gardens, London SW1 2BN, Great Britain. (W.H.)

110.

Cajanus. Bi-monthly journal of the Caribbean Food and Nutrition Institute covering aspects of health care and planning as well as nutrition. P.O. Box 140, Kingston 7, Jamaica. (W.H.)

111.

Christian Medical Commission, World Council of Churches, 150 Route de Ferney, 1211 Geneva 20, Switzerland. (W.H.)

112.

Contact. Periodical paper of the Christian Medical Commission (CMC) dealing with aspects of Christian communities' involvement in health and reporting innovative approaches to promotion of health care. CMC, World Council of Churches, 150 Route de Ferney, 1211 Geneva 20, Switzerland. (W.H.)

113.

Courier. (European Community: Africa-Caribbean-Pacific). Bi-monthly published by the Commission of the European Communities. Includes health topics amongst reports and articles relating to development and the Lome' Convention. 200 Rue de la Loi, B-1049 Brussels, Belgium. (W.H.)

114.

Excerpta Medica. Section 36: Health Economics and Hospital Management. International medical abstracting service. Classified arrangement with subject and author indexes. 20 issues a year, cumulative index. Excerpts Medica, Keizergracht 305, Box 1126, Amsterdam, The Netherlands. (W.H.)

115.

Health Notes. A periodic newsletter from the Committee for Health Concerns, Christian Conference of Asia. Edited by Susan B. Rifkin, Technical Consultant, Christian Conference of Asia, c/o Hong Kong Christian Council, 57 Peking Road 4/F, Lowloon, Hong Kong. (W.H.)

116.

Hospital Abstracts. Survey of world literature covering the whole field of hospitals and their administration, with exception of strictly medical and related professional matters. Classified arrangement with author and subject indexes. Monthly. Department of Health and Social Security, Alexander Fleming House, Elephant and Castle, London SE1 6BY, Great Britain. Subscriptions from Her Majesty's Stationary Office, P.O. Box 569, London SE1 9NH. (W.H.)

117.

Hospital Literature Index. An index to publications received in the library of the American Hospital Association; covering administration, planning and financing of hospitals and related health care institutions, and the administrative aspects of the medical, paramedical and prepayment fields. Alphabetical author and subject indexes. Quarterly with annual and five-year cummulations. American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611, United States of America. (W.H.)

118.

Institute of Development Studies, University of Sussex, Brighton BN1 9RE, England. (W.H.)

119.

Intermediate Technology Development Group, Parnell House, 25 Wilton Road, London SW1V 1JS, England. (W.H.)

120.

International Association of Agricultural Medicine and Rural Health, c/o Dr. T. Wasktsuki, Director, Saku Central Hospital, 197 Usuda-machi, Minami Saku-gun, Nagano Prefecture 384 03, Japan. (W.H.)

121.

International Development Research Center, Box 8500, Ottawa, Ontario, K1G 3H9, Canada. (W.H.)

122.

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